

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

INTERNATIONAL BUSINESS)	
MACHINES CORPORATION,)	
)	
Plaintiff,)	
)	C.A. No. 16-122-LPS
v.)	
)	
GROUPON, INC.,)	PUBLIC VERSION
)	
Defendant.)	
)	
)	

**DECLARATION OF JERRY A. HAUSMAN IN SUPPORT OF IBM'S MOTION FOR
A DETERMINATION OF AN ONGOING ROYALTY
AND PRE-JUDGMENT AND POST-JUDGMENT INTEREST**

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1. I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology in Cambridge, Massachusetts. I graduated from Brown University in 1968. I received a D.Phil. (Ph.D.) in Economics from Oxford University in 1973, where I was a Marshall Scholar. I have been at MIT since completing my D.Phil. My academic specialties are econometrics, the application of statistical methods to economic data, and applied microeconomics, the study of behavior by firms and by consumers.
2. I was retained by plaintiff IBM to assess damages in connection with this matter. I prepared an opening report, a reply report, and three supplemental reports. I also testified at trial on the issues that I addressed in my reports. My reports include a summary of my background and qualifications. A current version of my curriculum vitae is attached to this declaration as Exhibit 1.
3. I have personal knowledge of the calculations provided in this declaration and, if I am called as a witness, I could and would competently testify under oath to these calculations. I also have knowledge of the relevant parties, fact and expert testimony, and Court findings in the above-captioned litigation. I have relied on that knowledge in preparation of this declaration and the calculations set forth herein.
4. On July 27, 2018, after a two-week trial, the jury returned a verdict in favor of IBM. The jury found that Groupon willfully infringes U.S. Patent Nos. 5,796,967 (the “’967 patent”), 7,072,849 (the “’849 patent”), 5,961,601 (the “’601 patent”), and 7,631,346 (the “’346 patent”) (collectively, the “Patents-in-Suit”) and awarded IBM damages in the amount of \$82,500,000.¹

¹ Verdict Form, *International Business Machines Corp. v. Groupon, Inc.*, C.A. No. 16,122,LPS-CJB, No. 390 (July 27, 2018).

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5. At trial, I testified about the reasonable royalty Groupon would pay IBM for the period between the start of the damages window through conclusion of trial. I understand that the jury’s award compensated IBM for Groupon’s infringement of the patents-in-suit from March 2, 2010 (the start of the damages period) through July 27, 2018 (the conclusion of trial).
6. On August 8, 2018, the Court entered a judgment in favor of IBM and against Groupon for damages in the amount of \$82,500,000 for Groupon’s infringement of the Patents-in-Suit.²

Summary of Opinions

7. I have been asked by IBM to provide the following: (1) calculation of prejudgment interest, (2) calculation of post-judgment interest, and (3) a method for calculating an ongoing royalty that Groupon owes IBM for future infringing sales.
8. I calculate pre-judgment interest on \$82,500,000 to be \$13,623,523.³
9. I calculate post-judgment interest on the jury award of \$82,500,000 to be \$5,515 per day. I calculate post-judgment interest on the jury award and on pre-judgment interest (a total of \$96,123,523) to be \$6,426 per day.⁴
10. In my opinion, and consistent with the method I presented at trial, the ongoing royalty that Groupon would pay to IBM for future infringing sales through the expiration of all patents can be calculated as follows:

For the websites accused of infringing the ’849 patent:

² Judgment Following Jury Verdict, *International Business Machines Corp. v. Groupon, Inc.*, C.A. No. 16-122-LPS-CJB, No. 398 (Aug. 8, 2018).

³ Hausman Decl. Ex. 2.

⁴ Hausman Decl. Ex. 3.

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U.S. Revenue for Accused Websites x Adjusted EBITDA margin x 3.08%

For the mobile apps accused of infringing the ’849 patent:

U.S. Revenue for Accused Mobile Apps x Adjusted EBITDA margin x 2.80%

For the websites and mobile apps accused of infringing the ’346 patent:

U.S. Revenue for Accused Websites and Apps x Adjusted EBITDA margin x 2.31%

11. I also present an alternative method that estimates the ongoing royalty by carrying the jury’s damages award forward through expiration of the ’849 and ’346 patents. Using the alternative method, the ongoing royalty that Groupon would pay to IBM for future infringing sales through the expiration of all patents is \$47,258,949.⁵

Calculation of Pre-Judgment Interest

12. I have been asked to calculate pre-judgment interest on damages accruing from March 2, 2010 (the start of the damages window) through July 27, 2018 (the conclusion of trial).
13. I have been asked to calculate prejudgment interest using the prime rate, compounded quarterly. The prime rate is the interest rate that commercial banks charge their favored customers—i.e., customers with good credit. During the damages window the prime rate started at 3.25% and then increased as follows: 3.50% on December 17, 2015, 3.75% on December 15, 2016, 4.00% on March 16, 2017, 4.25% on June 15, 2017, 4.50% on December 14, 2017, 4.75% on March 22, 2018, and 5.00% on June 14, 2018.⁶
14. Applying the prime rate, compounded quarterly, to the jury’s \$82,500,000 award results in total pre-judgment interest of \$13,623,523.⁷

⁵ Hausman Decl. Ex. 4.

⁶ Bank Prime Loan Rate Changes (<https://fred.stlouisfed.org/series/PRIME>)

⁷ Hausman Decl. Ex. 2.

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Calculation of Post-Judgment Interest

15. I have been asked to calculate post-judgment interest in accordance with 28 U.S.C. § 1961(a), which provides that “[s]uch interest shall be calculated from the date of the entry of the judgment, at a rate equal to the weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding the date of the judgment.” In addition, “[i]nterest shall be computed daily to the date of payment except as provided in section 2516(b) of this title and section 1304(b) of title 31 and shall be compounded annually.” 28 U.S.C. § 1961(b).
16. The post-judgment interest rate is 2.44%, the 1-year treasury constant maturity rate for the week ending August 3, 2018.⁸
17. Exhibit 3 to this declaration contains my calculations of the daily and annual post-judgment interest for the period following the August 8, 2018 entry of judgment.

Calculation of Ongoing Royalty

18. I understand that the ’849 patent does not expire until July 4, 2023 and the ’346 patent does not expire until July 31, 2028. I have been asked to calculate an ongoing royalty for continued infringing sales from the date of judgment through the expiration of the ’849 and ’346 patents.
19. At trial, I presented my opinion that Groupon would owe IBM a reasonable royalty of \$166,468,823 from March 2, 2010 (the start of the damages window) through July 27, 2018 (the conclusion of trial) for Groupon’s infringement of the four patents-in-suit.

⁸ 1-Year Treasury Constant Maturity Rate, *available at* <https://fred.stlouisfed.org/series/WGS1YR> (last visited Aug. 22, 2018); Hausman Decl. Ex. 3.

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- a. My reasonable royalty for the '967 patent was \$23,546,921.
 - b. My reasonable royalty for the '849 patent was \$59,166,569.
 - c. My reasonable royalty for the '601 patent was \$40,691,044.
 - d. My reasonable royalty for the '346 patent was \$43,064,289.
20. The jury awarded IBM \$82,500,000 to compensate IBM for Groupon’s infringement of the four patents-in-suit through trial.
21. I understand that the '849 patent expires on July 4, 2023, approximately five years after the conclusion of trial. I also understand that the '346 patent expires on July 31, 2028, approximately ten years after the conclusion of trial. I further understand that the '967 and '601 patents expired. Therefore, my calculation of an ongoing royalty applies only to the '849 and '346 patents.
22. Below, I present two methods for determining the ongoing royalty to compensate IBM for Groupon’s ongoing infringement of the '849 and '346 patents.

Ongoing Royalty Based On Percentage Of Apportioned Profits

23. First, I used the ratio of the jury’s award to my reasonable royalty to calculate the adjusted reasonable royalty per patent as follows:
- a. For the '967 patent: $(\$82,500,000 / \$166,468,823) \times \$23,546,921 = \$11,669,578$.
 - b. For the '849 patent: $(\$82,500,000 / \$166,468,823) \times \$59,166,569 = \$29,322,259$.
 - c. For the '601 patent: $(\$82,500,000 / \$166,468,823) \times \$40,691,044 = \$20,166,005$.
 - d. For the '346 patent: $(\$82,500,000 / \$166,468,823) \times \$43,064,289 = \$21,342,158$.
24. As I testified at trial, the apportioned profits for the patents-in-suit were as follows:
- a. For the '967 patent: \$47,093,842.
 - b. For the '849 patent: \$118,333,137.

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- c. For the '601 patent: \$81,382,088.
 - d. For the '346 patent: \$129,192,866.
25. Therefore, the jury found that Groupon would be willing to pay IBM approximately 24.8% (or $\$11,669,578 / \$47,093,842 \times 100\%$) of the apportioned profits associated with the '967 patent to compensate IBM for Groupon's infringement.
26. Therefore, the jury found that Groupon would be willing to pay IBM approximately 24.8% (or $\$29,322,259 / \$118,333,137 \times 100\%$) of the apportioned profits associated with the '849 patent to compensate IBM for Groupon's infringement.
27. Therefore, the jury found that Groupon would be willing to pay IBM approximately 24.8% (or $\$20,166,005 / \$81,382,088 \times 100\%$) of the apportioned profits associated with the '601 patent to compensate IBM for Groupon's infringement.
28. Therefore, the jury found that Groupon would be willing to pay IBM approximately 16.5% (or $\$21,342,158 / \$129,192,866 \times 100\%$) of the apportioned profits associated with the '346 patent to compensate IBM for Groupon's infringement.
29. At trial, I testified that the reasonable royalty for the Groupon websites' infringement of the '849 patent is calculated as follows:

$$\text{Accused Website Revenue} \times 59.2\% \times 21\% \times 8.9\% \times 50\%$$

In the above equation, 59.2% and 21% represent the extent of use that Groupon's websites make of the '849 patented technology, 8.9% represents the adjusted EBITDA margin over the damages window discussed at trial (i.e., March 2010 through the conclusion of trial), and 50% represents the share of apportioned profits Groupon would be willing to pay IBM.

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30. However, as explained above, the jury’s award aligns with Groupon paying IBM approximately 24.8% of the apportioned profits associated with the ’849 patent. Furthermore, the adjusted EBITDA margin will differ in the post-verdict period. Therefore, in my opinion, the ongoing royalty for the Groupon websites’ infringement of the ’849 patent can be calculated as follows:

Accused Website Revenue x 59.2% x 21% x Adjusted EBITDA Margin x 24.8%, which becomes:

Accused Website Revenue x Adjusted EBITDA Margin x 3.08%

31. At trial, I testified that the reasonable royalty for the Groupon mobile apps’ infringement of the ’849 patent is calculated as follows:

Accused App Revenue x 52.7% x 21.4% x 8.9% x 50%

In the above equation, 52.7% and 21.4% represent the extent of use that Groupon’s apps make of the ’849 patented technology, 8.9% represents the adjusted EBITDA margin over the damages window discussed at trial (i.e., March 2010 through the conclusion of trial), and 50% represents the share of apportioned profits Groupon would be willing to pay IBM.

32. However, as explained above, the jury’s award aligns with Groupon paying IBM approximately 24.8% of the apportioned profits associated with the ’849 patent. Furthermore, the adjusted EBITDA margin will differ in the post-verdict period. Therefore, in my opinion, the ongoing royalty for the Groupon apps’ infringement of the ’849 patent can be calculated as follows:

Accused App Revenue x 52.7% x 21.4% x Adjusted EBITDA Margin x 24.8%, which becomes:

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Accused App Revenue x Adjusted EBITDA Margin x 2.80%

33. At trial, I testified that the reasonable royalty for Groupon’s infringement of the ’346 patent is calculated as follows:

$$\text{Accused Revenues} \times 14.0\% \times 9.0\% \times 33\%$$

In the above equation, 14.0% represents the extent of use that Groupon’s websites and mobile apps make of the ’346 patented technology, 9.0% represents the adjusted EBITDA margin over the damages window discussed at trial (i.e., July 2011 through the conclusion of trial), and 33% represents the share of apportioned profits Groupon would be willing to pay IBM.

34. However, as explained above, the jury’s award aligns with Groupon paying IBM approximately 16.5% of the apportioned profits associated with the ’346 patent. Furthermore, the adjusted EBITDA margin will differ in the post-verdict period. Therefore, in my opinion, the ongoing royalty for Groupon’s infringement of the ’346 patent can be calculated as follows:

Accused Revenues x 14.0% x Adjusted EBITDA Margin x 16.5%, which becomes:

$$\text{Accused Revenues} \times \text{Adjusted EBITDA Margin} \times 2.31\%$$

35. I understand that IBM will move the Court to order Groupon to produce an accounting of accused revenues and adjusted EBITDA on a quarterly basis from August 8, 2018 (the date of the entry of judgment) through July 31, 2028 (the date the ’346 patent expires). Using the forthcoming financial data that Groupon produces, the ongoing royalty for the ’849 and ’346 patents can be calculated as set forth in this section. If asked, I will calculate the royalty due IBM based on Groupon’s new financial data as described in this section.

Ongoing Royalty Based On The Jury’s Monthly Reasonable Royalty

36. In the alternative, should the Court wish to award an ongoing royalty based on time rather than on Groupon’s financial data, the jury award can also be used to forecast damages for ongoing infringement through expiration of the patents. To start, I again consider the portion of my reasonable royalty that the jury awarded to determine the adjusted reasonable royalty per patent:

- a. For the ’967 patent: $(\$82,500,000/\$166,468,823) \times \$23,546,921 = \$11,669,578$.
- b. For the ’849 patent: $(\$82,500,000/\$166,468,823) \times \$59,166,569 = \$29,322,259$.
- c. For the ’601 patent: $(\$82,500,000/\$166,468,823) \times \$40,691,044 = \$20,166,005$.
- d. For the ’346 patent: $(\$82,500,000/\$166,468,823) \times \$43,064,289 = \$21,342,158$.

37. The period for which the jury awarded the reasonable royalty was approximately 101 months for the ’849 patent (March 2010 through July 2018) and 85 months for the ’346 patent (July 2011 through July 2018). The royalty for the ’849 patent represents a monthly rate of $\$29,322,359/101 = \$290,319$ per month. The post-judgment infringement period for the ’849 patent is approximately 59 months (August 2018 through June 2023). Therefore, future royalties for the ’849 patent to account for post-judgment infringement (i.e., from the date of judgment through the expiration of the ’849 patent) would be approximately $(\$29,322,259/101) \times 59 = \$17,128,844$.⁹

38. The royalty for the ’346 patent represents a monthly rate of $\$21,342,158/85 = \$251,084$ per month. The post-judgment infringement period for the ’346 patent is approximately 120 months (August 2018 through July 2028). Therefore, future royalties for the ’346 patent to account for post-judgment infringement (i.e., from the date of judgment

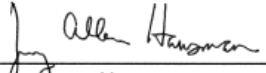
⁹ Hausman Decl. Ex. 4.

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through the expiration of the '346 patent) would be approximately $(\$21,342,158/85) \times 120 = \$30,130,105$.¹⁰

39. Exhibit 4 to this declaration contains my calculations of an ongoing royalty using the monthly reasonable royalty method. However, the Court may utilize either of the methods I have set forth to perform its own calculations of the ongoing royalty due IBM for Groupon’s ongoing infringement of the '849 and '346 patents.

40. I hereby declare under penalty of perjury that the above statements are true to the best of my knowledge and belief.



Jerry Allen Hausman
September 19, 2018

¹⁰ Hausman Decl. Ex. 4.